

guidance" to others. We have noted quite a number of points like this, but it would be a waste of time and space to refer to them in detail.

(2) "It is the design of this book to furnish guidance" to the "college student" and to "those who are pursuing a correspondence course" "in the solution of engineering problems." The first forty pages or so contain a *resume* of the mathematical and trigonometrical formulæ likely to be required. This is certainly useful, but much of it should not be necessary to students whose mathematical attainments are sufficient to follow the methods employed in the book, which make free use of the calculus, and seem to prefer pure trigonometrical solutions to those obtained with the help of vectors. Then follow a number of definitions concerning alternating quantities and elementary electrical matters. The uninitiated reader should be warned that some of these give quite a different meaning to certain terms from that current in this country, and others, if strictly interpreted, do not express quite what the author presumably intended. The book, however, is not intended as a text-book, but as a book of examples, and if the student conscientiously works through all the examples and problems given, he can scarcely fail to gain a fair insight into alternate current theory.

(3) The amateur or student who wishes to make a small transformer for himself will find the construction of the little one described in this book well within his powers. The type chosen is the Faraday ring type, which is an efficient type for its size, and is suitable for making with somewhat limited resources as to tools. The type does not, however, lend itself to cheap factory construction, and the book is not intended for electrical engineers. D. R.

AN AMERICAN GARDENING BOOK.

My Growing Garden. By J. H. McFarland. Pp. xiii+216. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd., 1915.) Price 8s. 6d. net.

IT is the better sort of intellectual morality which has inspired the writer of "My Growing Garden." As its title suggests, it begins *ab initio*, almost *in principio*, and the whole book bubbles over with the enthusiasm of the genuine gardener who creates, aspires, and sometimes has to stoop to conquer. The shrewd common sense that underlies some of the passages, which a meticulous critic might perhaps describe as otherwise florid, has a pleasant American character, and gives the book a quality of its own.

It is quite possible that the English garden-lover may not be able to extract many special "wrinkles" from Mr. McFarland's book, but he will most surely derive a good deal of pleasure from an acquaintance with the American garden as it has developed under the care of an American enthusiast. The chapter on weeds is especially a pleasant one, and, indeed, the whole book is well worth the reading.

NO. 2430, VOL. 97]

One of the oddly deep-rooted tendencies that Adam has transmitted to his descendants is a love of the garden. Like other tendencies, it may be latent in some, but is continually cropping up after the fashion of other primal instincts. Now and again it bursts into widespread activity, which is perhaps more than genuine; for imitation, a pre-Adamite simian character, plays no small part in the ostensible development, mental, moral, and otherwise, of gregarious folk. One of the accompanying features of the present epoch, symptomatic, perhaps, of the proselytising spirit of aggressive humanity, is apparent in the multitude of books on gardens which have, for the last decade or so, been rolling so tumultuously from the printing press. The future student of our times might do worse than give his attention to this oddly mixed literature. It has been written by and for all sorts and conditions of men—and women—and it reflects, as the serious, fictitious, or mercenary pursuit of a widely cultivated hobby can do so well, a wide range of human aspiration—a curious mixture of noble metal and worthless clay. J. B. F.

OUR BOOKSHELF.

Elements of Mineralogy. By F. Rutley. Revised by H. H. Read. Nineteenth edition. Pp. xxii+394. (London: T. Murby and Co., 1916.) Price 3s. 6d. net.

IN this nineteenth and extensively revised edition of Rutley's "Mineralogy" the general arrangement of the original has been largely retained, but such changes have been made as the reviser has thought necessary "to bring the book into line with modern tendencies in economic mineralogy, and to make it an introduction to the scientific prospecting and determination of mineral deposits."

Occurrence and origin are treated more fully than in former editions, also the uses of the industrial minerals, and the geographical location of important deposits. An interesting introduction has been contributed by Mr. G. T. Holloway, and a series of excellent paragraphs prefatory to the several useful and precious metals by Mr. W. G. Wagner. A serviceable glossary of terms used in economic geology has been added by the reviser.

Typographical errors are few, but errors of matter numerous. The composition of anorthite is given as $\text{CaO} \cdot \text{Al}_2\text{O}_3 \cdot 6\text{SiO}_2$ (p. 191); it is stated of orthorhombic crystals (p. 111) that "all sections give straight extinction"; ægerine and wollastonite are classed with the aluminous pyroxenes (p. 198), and riebeckite with the aluminous amphiboles (p. 206). Style, and precision of language, too, are often defective. The tetragonal system is characterised by "two equal lateral axes, one unequal vertical axis" (p. 71); the optic axes of biaxial crystals are described as directions "along which light can travel with equal velocity" (p. 99); the Mond process is said to produce "nickel in a great state of purity" (p. 338); we are told (p. 116) that "iron carbonate (FeCO_3) is the mineral chalybite," and (p. 376) that platinum is used "in

the manufacture of chemicals by the contact process in dentistry and in jewellery."

Mr. Read was ordered abroad for active service while the volume was being set up. Had he seen all proofs, no doubt imperfections, of which the foregoing are random examples, would have been eliminated.

The book is a useful epitome of mineralogical principles and methods, and a convenient small work of reference to the more important rock-forming and economic minerals. C. G. C.

British Sea Fish: An Illustrated Handbook of the Edible Sea Fishes of the British Isles. By Harold Swithinbank and G. E. Bullen. Pp. xi + 35. (London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd.) Price 2s. net.

THIS is a pamphlet of which six pages are devoted to an account of the British sea fisheries, and thirty-five pages to descriptions of some thirty-four species of marketable fishes. The illustrations are very small half-tone reproductions of mediocre photographs. The descriptions consist each of about six to ten lines of print summarising the characters of the species; two or three lines of print giving the range of occurrence; and of "remarks" dealing mainly with the quality, flavour, and methods of cooking of the fishes considered. We learn from the preface that the work "is to be regarded as in no way scientific," and that it is intended to popularise the cheaper and coarser kinds of sea-fish which at present suffer from prejudice. Considering these limitations and the relatively high price of the pamphlet, we find it difficult to think of the particular public to which it is intended to appeal at the present time; for it is far too small to be of much use to anyone really interested in marine biology, and too expensive to be used in a propaganda.

J. J.

LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. No notice is taken of anonymous communications.]

"Summer Time" and Meteorology.

RECENTLY I have had occasionally to rise at 3 a.m. and to be out between 3 a.m. and 5 a.m. I found the weather misty and relatively very cold, with temperature about 45° F. Later in the day temperature rose to 75° F. Clothing suitable for the early morning was quite unsuitable for the day, and (what I specially noticed) *vice versa*; it occurred to me that civilised people had unconsciously adopted a day which centred a little later than the time of maximum temperature, thereby securing the nearest possible approach to a uniform temperature in the daily period of their "away from home" existence. In this way they save themselves unnecessary trouble in putting on and taking off clothing; and, further, they save themselves unnecessary risk of chills and colds. The change from a temperature of 45° F. to one of 75° F. is equivalent to changing from a cool day of January to a warm day of July. The change may stimulate and energise

the labourer in the fields; I doubt if its effect on the worker in a city office is good or pleasant.

The average increase of temperature from 8 a.m. to 9 a.m. in the summer months is nearly 40 per cent. of the increase from 9 a.m. to the maximum about 2 p.m.; and the decrease in humidity (or dampness of the air) from 8 a.m. to 9 a.m. is nearly 50 per cent. of the decrease from 9 a.m. to the minimum humidity in the afternoon (and the rate of change from 7 a.m. to 8 a.m. is equally fast).

Moving the hands of the clock will neither warm nor dry the air. People are therefore being plunged into cooler, damper air through their ignorance (1) of the fact that custom is usually based on the teachings of experience; (2) of the facts of observation which indicate directly what has been the indirect teaching of experience in this case.

The argument that it is as cold in April at 9 a.m. as it is in May at 8 a.m. is ineffective, because people in England adapt the amount and character of their clothing to the season of the year, and what they feel most is not absolute cold, but relative cold; and *relatively to the middle of the day* it is twice as cold at 8 a.m. in May as at 9 a.m. in January.

There is an element of romance about early rising if the experiment is not too often repeated. Perhaps one summer will suffice. E. GOLD.

IN accordance with the provisions of the Summer Time Act, Greenwich Mean Time will continue to be used for all meteorological observations and publications, so that no discontinuity will be caused during the period when Summer Time is in force. But besides the observations which are made by regular observers, many meteorological phenomena of various kinds are from time to time recorded or reported, and it is highly desirable that there should be no ambiguity in these reports, which are often of much interest and importance. The council of the Royal Meteorological Society desires to direct attention to the necessity of stating precisely the time of occurrence in all such cases, and whether the times quoted refer to Greenwich Mean Time or to Summer Time, since the omission of this information may render the record of the phenomenon useless for meteorological purposes.

Such occasional observations form a valuable addition to those which are made at the permanent observing stations and supplement them usefully; it is therefore essential that they should be recorded with precision.

H. G. LYONS,

President

Royal Meteorological Society, May 19.

Geologists and Special Constables.

A RECENT experience of Canon E. Hill and myself may be useful to geologists. On May 3 we went by train from Lincoln to East Barkwith Station, on the line to Louth, and walked by a rather roundabout route to South Willingham Station, looking at the structure of the country and for sections of drift. While waiting for our train outside the latter station, a man, in dress and aspect rather above a farm labourer, accompanied by another with a badge of some sort on his coat, came up to us, and in none too civil a tone began to catechise us as to what we were doing, where we were and had been staying, our homes, professions, ages, heights, and the like, about which we gave him full information. Apparently he did not know that there was such a science as geology, but after he had received a large amount of biographical information he acknowledged it by saying, in the tone of one rebuking two peccant villagers, that as